U.S.S.N. 10/072,798

Claim Amendments

Please amend claims 1 and 15 as follows.

Please cancel 24 as follows.

1. (currently amended) A method for ~~for~~ isotropically trimming semiconductor feature sizes with improved critical dimension uniformity over a process wafer surface comprising the steps of:

providing a substrate comprising an uppermost patterned hard mask nitride layer free of overlying photoresist;

isotropically wet etching the patterned hard mask to isotropically reduce the patterned hard mask dimensions wherein the wet etching rate is reduced as a critical dimension is approached and wherein the wet etching process is selected from the group consisting of spin-spray etching and immersion etching; and,

plasma etching through a thickness portion of the substrate according to the patterned hard mask following the wet etching process to form the semiconductor feature.

2. - 4. (cancelled)

5. (previously presented) The method of claim 1, wherein the hard mask comprises a material selected from the group consisting of silicon nitride, silicon oxynitride, and titanium nitride.

6. (previously presented) The method of claim 1, wherein the substrate comprises a polysilicon layer overlying a silicon substrate.

7. (cancelled)

8. (previously presented) The method of claim 1, wherein the spin-spray wet etching process comprises simultaneously spinning the semiconductor wafer while spraying a wet etching solution onto the hard mask.

9. (previously presented) The method of claim 8, wherein simultaneously spinning comprises a spin rate of about 300 to about 2000 revolutions per minute.

10. (previously presented) The method of claim 8, wherein the wet etching solution comprises hydrofluoric acid (HF) and glycol.

11. (original) The method of claim 10, wherein the wet etching solution has a temperature of about 20°C to about 90°C.

12. (previously presented) The method of claim 11, wherein the wet etching solution comprises about of 1 part HF to 10 parts glycol to about 1 part HF to 100 parts glycol.

13. (previously presented) The method of claim 8, wherein the wet etching solution comprises (H_2O) and hydrofluoric acid (HF).

14. (previously presented) The method of claim 1, wherein the step of isotropically wet etching comprises immersion in a wet etching solution comprising phosphoric acid at a temperature of about 150°C to about 180°C.

15. (currently amended) A method for forming gate structures with improved CD uniformity across a semiconductor wafer process surface comprising the steps of:

providing a semiconductor wafer comprising a nitride layer overlying a polysilicon containing layer;

photolithographically patterning a photoresist layer over the nitride layer to form a patterned etching surface;

plasma etching through a thickness of ~~the~~ the nitride layer to form a hard mask;

removing the photoresist layer to form a wet etching surface comprising sidewalls and an upper surface of the hard mask;

isotropically wet etching the hard mask according to a spin-spray process comprising HF to isotropically reduce the hard mask dimensions wherein the wet etching rate is reduced as a critical dimension is approached; and,

plasma etching through the polysilicon layer according to the hard mask to form a gate structure.

16. (previously presented) The method of claim 15, wherein the step of isotropically wet etching comprises an etching solution with a temperature of about 20°C to about 90°C.

17. (previously presented) The method of claim 15, wherein the step of isotropically wet etching comprises the steps of simultaneously spinning the semiconductor wafer while spraying an etching solution onto the wet etching surface.

18. (previously presented) The method of claim 15, wherein the step of isotropically wet etching comprises a wet etching solution comprising HF and glycol.

19. (previously presented) The method of claim 18, wherein the wet etching solution comprises 1 part HF to 10 parts glycol to about a ratio of 1 part HF to 100 parts glycol.

20. (previously presented) The method of claim 15, wherein the hard mask dimensions following the isotropic wet etching process comprise a width reduced from about 50 percent to about 90 percent.

21. (previously presented) The method of claim 1, wherein the hard mask dimensions following the isotropic wet etching process comprise a width reduced from about 50 percent to about 90 percent.

22. (previously presented) The method of claim 8, wherein the wet etching solution comprises HF.

23. (previously presented) The method of claim 17, wherein simultaneously spinning comprises a spin rate of about 300 to about 2000 revolutions per minute.

24. (cancelled)